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U. S. Department of Transportation Dockets  
400 Seventh Street, SW.  
Washington, D.C. 20590

RE: Modification of the Dimensions of the Grand Canyon National Park **Special**  
Flight Rules Area and Flight Free Zones, Docket No. FAA-993926 - 114  
Notice No. 99-11

Commercial Air Tour Limitation in the Grand Canyon National Park Special  
Rules Area., Docket No. FAA -99-5927, Notice No. 99-12 **FAA 99-5927-48**

Ladies and Gentlemen:

Twin Otter International, LTD. ("TOIL"), appreciates this opportunity to comment on the above referenced dockets dealing with changes to the Grand Canyon Special Flight Rules Area ("SFAR"). We note and attach by reference the many comments TOIL has previously submitted to prior dockets dealing with the **SFAR**, and in addition statements made by TOIL in congressional hearings dated October 11, 1996, and May 25, 1999, submitted with this statement dealing with the consequences of these current notices.

I wish I could be more charitable in choosing words to describe TOIL's views on these proposals. They are unfounded by fact, represent unsound airspace regulation, are an abdication of FAA's sole authority to regulate air transportation in deference to the Department of Interior/National Park Service, violate rulemaking procedures and offer as justification badly flawed analyses of costs and benefits. These SFAR proposals should be tossed out without further consideration. TOIL is prepared, along with its **affiliate** through ownership, Grand Canyon Airlines ("GCA"), to pursue every remedy available to stop these **SFAR** proposals before they wipe-out the Grand Canyon air tour industry including our company which produces the ultra-quiet **deHavilland** "Vistaliner" aircraft used in Grand Canyon aerial sightseeing.

We do not intend to repeat here what we have said many times before--quiet technology aircraft must be recognized and given incentives at Grand Canyon. For 15 years we have sought such incentives and for 15 years all we have heard is agency doublespeak and vague commitments by both FAA and NPS to providing quiet **aircraft** incentives--but always in a future that never arrives.

TOIL, for brevity, will not repeat the arguments set forth in the documents submitted by Grand Canyon Airlines to these dockets but FAA must consider them as those of TOIL as well. Those GCA comments cite an economic analysis prepared by economics professors, Drs. R. Keith Schwer and Mary Riddell, of the Center for Business and Research at the University of Nevada (Las Vegas). FAA should evaluate these comments with care as they shred unequivocally the faulty--perhaps even sham--basis for these SFAR proposals even as these professors cite the logical and beneficial outcome of providing quiet aircraft incentives in place of the cuts, curfews, and air tour route limitations at Grand Canyon.

The arrogance of these SFAR proposals can be summed in **FAA's** own words in Notice 99-11 at Federal Register page 37299, "The FAA has determined that the three proposed modifications could result in net cost savings for some commercial air tour operators while one or two operators could be forced to absorb cost increases associated with the Final Rule. However, there will be no significant net increase in societal costs, only redistribution between producers and consumers of Grand Canyon air tours"(emphasis added). The goal of Public Law 100-91 was to regulate the Grand Canyon air tour industry in order to achieve "substantial restoration of natural quiet and experience" at Grand Canyon. FAA would now impose draconian restrictions with cavalier disregard for what Congress legislated twelve years ago. Regardless of sound level, all air tour aircraft whether fixed-wing or rotorcraft, are to be treated the same under these SFAR proposals. How does that achieve the goal of substantial restoration of natural quiet? Unfortunately, it does not. The inevitable result will be more aircraft noise rather than less as operators of quiet aircraft revert to less costly airplane models that are also noisier.

Let me put this cost difference into perspective. The per passenger seat cost of a six place Cessna 207 is **\$12,000-\$21,000** (aircraft market value divided by passenger seating capacity). For the nine seat Piper Navajo, that seat cost is **\$25,000-\$30,000**. For the nineteen seat Vistaliner, it is in excess of \$65,000 a seat, more than double any other air tour airplane used in aerial sightseeing at Grand Canyon.

In the comments of Grand Canyon Airlines, GCA provides detailed balance sheet and operating costs for its four Vistaliners used in Grand Canyon aerial sightseeing. **GCA's** total fixed investment exceeds \$7.7 million and in order to break even GCA must fly at least 3,700 flights annually to produce enough net revenue (revenue per flight less direct operating costs per flight) to cover annual fixed costs. Yet GCA is capped at just 3,165 flights by these proposed regulations, a level insufficient for GCA to break even. Other proposals contained in these **NPRMs** such as the 20 percent longer tour route, no

alternative weather day tour and reduced payload will cause GCA, as detailed in its comments, to lose in excess of \$750,000 annually. This result has two potential outcomes; either GCA must exit the air tour business at Grand Canyon, or it must lower its fixed costs by shedding its Vistaliners in favor of smaller and less costly flight equipment whereby Grand Canyon Airlines can make a profit. Either way, ground visitors to Grand Canyon National Park will lose--the quietest and largest passenger capacity aircraft at Grand Canyon will be gone. GCA and TOIL have stated such repeatedly and apparently no one at FAA or the Park Service ever listens or even cares.

TOLL and GCA developed the Vistaliner in 1983 specifically for use in its air tour businesses (Scenic Airlines and Grand Canyon Airlines) at Grand Canyon. We recognized then that larger capacity **aircraft** (Scenic operated more than 30 Cessna **402s/GCA** operated 5 Cessna 207s) would reduce the number of flights required and therefore lessen the impact of air tours on ground visitors. We also invested in propeller technology that resulted in a 66 percent reduction in overflight sound. This marked difference was recognized by FAA in its Notice 96-15, but with which FAA has done nothing. That quiet technology propeller investment alone **totalled** in excess of \$1.5 million in engineering costs and equipment retrofit.

Today, the air tour successor to our Scenic Airlines, Eagle Canyon Airlines, Inc., **d.b.a.**, Scenic Airlines, ("Eagle") operates 19 Vistaliners, eight of which are owned by Eagle and eleven leased **from** TOLL. In addition to the eleven Vistaliners leased to Eagle, TOLL and GCA own an additional ten Vistaliners which are leased to operators outside Grand Canyon. Just three of those ten Vistaliners are used for non-air tour purposes and TOLL and **GCA** have two additional "white tail," Vistaliners that are available for lease when finally required. The reason the Vistaliner is rarely used in non-air tour operations is that it has been specially modified to make it virtually a single-purpose aircraft--aerial sightseeing. The addition of large windows, air conditioning, the heavier quiet technology props and **inflight** tour narration system adds 450 pounds to the basic empty weight of the **deHavilland** Twin Otter from which the Vistaliner is derived. That makes the Vistaliner less productive from a revenue point-of-view, unless the Vistaliner features are required. Who requires such features? Air tour companies.

The air tour caps on **GCA's** flights and the lack of a Las Vegas-Grand Canyon air tour route for Eagle will cause a substantial number of twenty-three Vistaliners now operated to be surplus. How many and how soon after these rules are adopted is not predictable. What is predictable is that a glut of surplus Vistaliners will not be absorbed easily unless rents are discounted and even then, it will be hard to place these aircraft in short order. Air tour Vistaliner rents range in the range of \$15,000-\$18,000 per month. Our view is that the discount would be at least one third of that current rent level, or **\$75,000-\$90,000** a month in reduced income to TOIL, GCA and Eagle **if**, for example, 15 of the 23 Vistaliners are surplus. That surplus of aircraft and lower ability to generate rent will also cause Vistaliner market (hull) values to decline by one third, or \$13.3 million.

Thus these companion Notices not only **affect** air tour companies at Grand Canyon, but have an substantial impact on aircraft suppliers such as TOIL which provide air tour aircraft.

We point out with some sarcasm **FAA's** likely response to these comments. First, you will dismiss the higher cost argument on the basis that Vistaliner operators will simply pass-on the higher costs to passengers through higher ticket prices. This is absurd--the air tour business is highly competitive and pricing is driven by the lowest cost producers which means the most efficient operators or those with the lowest investment in **flight** equipment and/or lowest personnel costs. The second FAA response is that we can re-deploy Vistliners to other air tour applications. As we have just shown, roughly just ten percent of the world Vistaliner fleet is used in non-air tour operations.

FAA also ignores the air safety implications of reverting to smaller equipment than the Vistaliner. Eagle's and **GCA's** Vistaliners are operated under Part 121 rules, have two member flight crews **certified** and trained to air transport standards. They are maintained to higher standards of "continuous airworthiness" and are equipped with TCAS, GPWS and radar altimeters.

We direct you to the attached congressional testimony as to which direction TOIL believes FAA must go to achieve a less noisy Grand Canyon National Park--quiet aircraft incentives and rational air tour routes. It is annoying, frankly, we have said it all many times **befor**, yet we have been ignored. I have always ended comments to FAA dockets with a thank you to FAA personnel for taking an interest in the views of Twin Otter International. I cannot do so now because these rulemakings are completely irrational yet they will be adopted regardless of our comments to the contrary.

Withdraw these notices and do not proceed with these SFAR changes until you have (a) provided quiet aircraft incentives, (b) completed validation of NPS **aircraft** noise modeling at Grand Canyon, and (c) complied with the letter and spirit of the various laws and executive orders that protect the public from the kind of regulatory abuses as FAA now proposes in Notices 99-11 and 99-12.

Regards,



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**STATEMENT OF ALAN R STEPHEN  
PRESIDENT, TWIN OTTER INTERNATIONAL, LTD.  
SUBCOMMITTEE ON NATIONAL PARKS AND PUBLIC LANDS  
U.S. HOUSE OF REPRESENTATIVES  
MAY 25, 1999**

Thank you, Mr. Chairman and members of the committee, for inviting me to appear today. I want to echo the comments of my colleague, Steve Bassett, in noting our keen appreciation for your continuing focus on, and support for, maintaining a viable air tour industry at Grand Canyon. Unfortunately, neither the FAA nor the National Park Service can be similarly commended; indeed, if I were to grade the agencies' actions of late, it would be no higher than an "F."

I first became involved in the regulation of the air tour industry at Grand Canyon more than 15 years ago as executive vice president of the Regional Airline Association on behalf of its member companies, Scenic and Grand Canyon Airlines. We supported passage of the National Parks Overflight Act in 1987, and in fact, I appeared before this committee then, testifying in favor of it.

For the past twelve years, I have been president of Twin Otter International, Ltd., the company that modifies the 19 passenger seat DeHavilland Twin Otter into a highly specialized air tour aircraft we call the "Vistaliner." Among its many custom features, we have incorporated specially designed quiet props that make the Vistaliner among the quietest aircraft flying anywhere. The Vistaliner is one of just two air tour airplane types that meet FAA's proposed category C quiet aircraft standards. There are 22 of our Vistaliners in tour service at Grand Canyon. They account for about 35 percent of the 800,000 fixed wing and helicopter passengers flying over Grand Canyon annually.

Prior to the sale of its air tour operations in 1993, Twin Otter International was also Scenic Airlines, then and now, the largest air tour company in the world. Because of my background as the chief executive at Scenic then and vice president of operations at Grand Canyon Airlines now (Grand Canyon Airlines is an owned affiliate of Twin Otter International), I was pleased to be asked and serve as a member of the nine person National Park Overflights Working Group (NPOWG). We were tasked to develop comprehensive recommendations for the Secretaries of Transportation and Interior on

how to regulate aerial sightseeing over national parks nationwide. We accomplished that task last year after fifteen months of exhausting negotiations. Our recommendations preserve FAA's role in airspace regulation while creating a process by which air tour visitors at our national parks will have minimum impact on ground visitors, park resources and native Americans. We support legislation now before Congress to make those NPOWG recommendations federal law.

Others on this panel can better speak to the faulty, if not disingenuous, science NPS **congers** up in its notice "Change in Noise Evaluation Methodology for Air Tour Operations over Grand Canyon National Park." I want to speak instead to its implications for air tourism at Grand Canyon and over other national parks.

In its notice, NPS has now zoned Grand Canyon in order to "allow noise thresholds to be tailored to the circumstances of each zone." For one third of the park (approximately 400,000 acres) the threshold of natural quiet is ambient plus 3 dB(a). For the remaining two thirds (or 800,000 acres), the threshold has been set at ambient minus 8 **dB(a)**. While I am no expert in acoustics, I have been told that ambient minus 8 dB(a) is a threshold of sound like listening to one's blood circulating.

This absurd threshold definition, in and of itself, does not render a fatal blow to the air tourism industry at Grand Canyon. As a member of the NPOWG, frankly, I feel betrayed by it however. It was never the subject of discussion within the NPOWG deliberations even though the people behind this definition attended, or were represented, at each and every NPOWG session. If this NPS definition of natural quiet is to become a national standard--then NPS has rendered the hard work of the NPOWG as a pointless exercise. No aircraft of any sort, except gliders, can fail to be detected under these thresholds and the inevitable result will be a ban on all air tours over all national parks. Meanwhile, commercial, military and general aviation will remain unaffected and, therefore, there will not be natural quiet for national park visitors due to the sounds of such aircraft activities.

While the new threshold for establishing natural quiet is nothing more than a definition, the new and ever more onerous restrictions that FAA and NPS intend to propose at Grand Canyon in the coming months will have profound consequences for air tourism. Let me begin by reviewing briefly the chronology of NPS actions at Grand Canyon in the name of "substantial restoration of natural quiet and experience" **from** air tour sound at Grand Canyon.

The National Parks Overflight Act of 1987 in part was justified on regulating air tours over Grand Canyon in such a way as to minimize **aircraft** sound for both back and front country visitors at ground level. Prior to the Act, NPS was averaging more than 1,000 written complaints a year regarding aircraft (whether air tour or not) from approximately

2.5 million visitors coming annually to Grand Canyon during the mid-1980s. With implementation of the Grand Canyon Special Flight Rules Area regulations (SFAR 50-2), those complaints nose-dived in the 1990s to only several dozen a year while Canyon visitation has now doubled to some 5.0 million visitors each year.

Aircraft overflight problem solved--reasonable people would think so--but not the National Park Service. Ground visitors are no longer part of **NPS's** noise calculations. Now NPS has demanded at Grand Canyon that 50 percent of the park must achieve "natural quiet" for 75 to 100 percent of the day. The NPS definition of "day," is daylight--not 24 hours. The NPS threshold of audibility is mechanically derived whether there are ground visitors there to hear aircraft or not. (NPS would have the fixed-wing air tour route on the east end of Grand Canyon extend beyond the north park boundary even though the Grand Canyon North Rim is closed to visitation seven months of each year.) And the threshold of audibility NPS employs at Grand Canyon to determine if there is natural quiet over 50 percent of the park 75 to 100 percent of the day--is being set as low as ambient minus 8 dB(a).

All this is being done utilizing a noise model that is flawed, that remains unvalidated and that FAA cannot substantiate with its own aircraft noise model. Trying to measure whether or not there has been substantial restoration of natural quiet at Grand Canyon using faulty science is analogous to trying to measure the size or weight of something without having standardized measures. I can speak for the entire air tour industry in applauding you, Mr. Chairman, for recognizing early-on the serious credibility problems NPS has created for itself using its noise model and setting such thresholds. I also want to point out that this ambient minus 8 dB(a) threshold was set in stone by NPS without public comment, virtually without explanation or justification and with a dubious promise to seek public comment on the NPS aircraft noise "model validation study" and aircraft "noise monitoring strategy" during the process for the development of its future "comprehensive noise management plan" for air tour operations over Grand Canyon National Park. Wouldn't it be prudent for those model validation and monitoring strategies to be accomplished first before our executive branch adopts a whole new round of restrictions at Grand Canyon? The NPS is not discussing what it has in mind in adopting a "comprehensive noise management plan." Unfortunately, Mr. Chairman and members of this committee, I fear the NPS war against the Grand Canyon air tour industry is far **from** over.

To achieve its self-serving and never ending goals at Grand Canyon, NPS in partnership with FAA, has barred new air tour companies from flying over Grand Canyon, capped the number of aircraft existing air tour operators can fly over Grand Canyon, prohibited redistribution of aircraft caps from air tour companies that have gone out of existence, and imposed overly restrictive curfews over the east end of the park that are unrelated to actual daylight hours. In the next few months, NPS in partnership with FAA, will propose

additional onerous air tour flight restrictions at Grand Canyon that will include a cap on operations using 1997 as the base year--one of the slowest for the Grand Canyon air tour industry in the past decade--and eliminate the vital Las Vegas-to-South Rim tour route entirely. What else may be proposed at the same time is unknown by us--and the devil is always in the detail of the line print. In what can be described only as Orwellian logic, air tour **aircraft** coming **from** Las Vegas will be flying **10-12** miles south of the park's southern boundary. Meanwhile, a major east-west jet airway located over the entire **277-mile** length of the canyon will remain unaffected. Aircraft using that airway can do so 24 hours a day, have many times the flight frequencies each day than all air tours flights combined, and will do so less than 6-7 miles from the park rim.

Implicit in the NPS ambient minus 8 dB(a) notice is that air tours are unwelcome anywhere over Grand Canyon. In taking ground visitors out of the natural quiet noise calculation and substituting in their place a formula for mechanically detectable sounds above an unreasonably low noise threshold, NPS will eliminate air tours over remote and largely inaccessible park lands where few visitors ever go.

As justification for this new definition for natural quiet, NPS states at F.R. Vol. 64, No. 16, page 3971, that it is charged with the "responsibility to preserve park areas and to provide for their enjoyment in a manner that will leave them unimpaired for the enjoyment of future generations." NPS goes on to state, "Preserving and maintaining natural and cultural 'soundscapes' in areas of the national park system is a component of this responsibility." Finally, NPS concludes, "A concern for the achievement of the 'substantial restoration of natural quiet' in GCNP is analogous to concerns regarding the preservation of wildlife, historic structures or ecosystems that are significant features of parks."

The NPS is making a tangle of its mandates in order to **justify** its need to issue the revised definition for the threshold of natural quiet. Let me untangle this web regarding its legislative mandates which this committee understands all too well.

NPS is actually charged with two mandates: the first is "to preserve park areas;" the second is "to provide for their enjoyment in a manner that will leave them unimpaired for the enjoyment of future generations." Air tour overflights comply with the first mandate. Air tour passengers leave no footprints or trash, require no trails or sanitation, and preserve cultural, wildlife, plant and geological features unlike ground visitors.

The second mandate is for NPS "to provide for their (national park units) enjoyment" but "in a manner that will leave them unimpaired for the enjoyment of future generations." Aircraft overflight sound leaves no trace once the event passes; therefore it cannot impair our national parks for the enjoyment of future generations. Period! To argue otherwise, as NPS does, is facetious. This second mandate thus reduces to "provide for their



(national park units) enjoyment” by park visitors. Over the last few years, approximately 800,000 air tour passengers a year have enjoyed Grand Canyon National Park from above it, in comfort and safety, while less than several dozen ground visitors have complained of aircraft sound.

Once again, we must point out that air touring is not about preserving resources; it is a visitor conflict issue in which a small minority must have the ability to experience natural quiet **anywhere** they chose and regardless of their impact on the **geological**, cultural and fragile ecosystems at Grand Canyon in two thirds (800,000 acres) of the park subject to the ambient minus 8 **dB(a)** standard. In doing so, that faction would deny that magnificent experience to air tour passengers.

The NPS argument that aircraft overflight is “analogous” to preservation of “wildlife, historic structures or ecosystems” which can be permanently degraded by ground visitors is less than accurate. Natural quiet can be instantly and fully restored at Grand Canyon.. **close** the park to any means of visitation by motorized craft whether it be aircraft, train, bus, motorcycle, automobile or raft and all that will be **left** is silence broken only by the sounds of human voice and nature.

Had the National Park Service disclosed its plans to define “natural quiet” during the deliberations of the National Parks Overflights Working Group, our efforts would have been short lived and unproductive. Instead, the NPOWG recognized as a key component of its recommendations that incentives must be offered for air tour operators to convert to category C quiet aircraft. Twelve years ago Congress recognized that quiet aircraft technology rather than caps and curfews was good public policy--and directed that it be studied as part of passage of the National Park Overflights Act of 1987. In its 1996 report to Congress, NPS emphasized the need to provide incentives for air tour operators to convert to quiet aircraft. Our company has spent more than \$1 .0 million in research and equipping our Vistaliners to be good neighbors at Grand Canyon--yet not one single quiet aircraft incentive has been adopted by the NPS and FAA. The national parks overflight legislation now before Congress corrects that egregious lapse of regulatory judgement at Grand Canyon and for every other national park unit. It provides for quiet aircraft incentives such as, but limited to, preferred air tour routes and altitudes and relief from curfews and caps. We urge Congress to pass this legislation this session.

Let me provide you with a concrete example of why I have termed **NPS’s** and **FAA’s** regulation of air tours over Grand Canyon as “egregious.” Historically, air tours by fixed wing aircraft and helicopters over the east end of Grand Canyon have been over the same route but at **different** altitudes for safety reasons. In 1994, FAA permitted helicopter operators, but not fixed-wing operators, to fly a vastly shortened route which permitted helicopter tours at one third the cost of the longer tour. The consequence was a dramatic

shift in the east canyon air tour business from approximately 50 percent fixed-wing to just 20 percent today. The result--many more helicopter flights and much more aircraft noise.

Let me put this into perspective. Grand Canyon Airlines operates four **19-passenger** Vistaliners. In 1994, it carried 95,000 air tour passengers--declining to **just** 47,000 passengers in 1997. **Every flight by** Vistaliner is absolutely quieter than a flight by the Bell Jet Ranger helicopters used in competition with Grand Canyon Airlines. **Every flight by** Vistaliner with an average load factor of 15.2 passengers replaces four helicopter flights with an average load factor of four passengers.

Quiet technology for air tour **aircraft** and helicopters is available now and could be adapted to aircraft models other than the Vistaliner. The benefits of such larger, and quieter, aircraft should be obvious. Not only is each flight less audible, and therefore less noticeable to park ground visitors, but employing quieter **aircraft** will result in fewer flights in the future. One flight by Vistaliner replaces two flights by the 9-passenger Cessna 402 and three flights by the 6-passenger Cessna 206. With such obvious benefits, it is hard to imagine why NPS and FAA have done nothing to encourage use of quiet aircraft in air tourism over our national parks.

The air tour industry goal at Grand Canyon has been, and will continue to be, to preserve a quality air tour experience while mitigating to the extent practical air tour aircraft sound for ground visitors, on park resources, and for native Americans living near Grand Canyon National Park. SFAR 50-2 has worked. The next step should be converting all air tour airplanes used at Grand Canyon to quiet aircraft.

Thank you, Mr. Chairman, for your interest in our thoughts. I will be pleased to answer any questions the Committee may have.

Testimony of Alan R. Stephen  
President, Twin Otter International, Ltd.  
Before the Subcommittee on Aviation  
United States Senate  
Tempe, AZ  
October 11, 1996

Mr. Chairman and members of the Committee, I am Alan R. Stephen, president of Twin Otter International, Ltd. ("TOIL"), a Nevada-based company which produces the especially modified **deHavilland** DHC-6 model Twin Otter aircraft in "Vistaliner" configuration for aerial sightseeing applications. The Vistaliner is one of three aircraft models now designated by NPS as "quiet." Two air tour companies, Scenic Airlines and Grand Canyon Airlines ("GCA"), currently operate twenty-two Vistaliner aircraft and these twenty-two Vistaliners account for approximately 55 percent of all Grand Canyon **fixed-wing** air tour passengers.

The **deHavilland** Vistaliner was developed by us to be the very best aerial sightseeing aircraft possible. It features greatly enlarged cabin windows for panoramic views from each of its 19 passenger seats. The Vistaliner's high wing design also permits unobstructed passenger views of the Canyon below while an ingenious multilingual **inflight** personal narration system permits each Vistaliner passenger simultaneously to hear the air tour in the language of choice. This is an important feature since over fifty percent of G-CA's passengers and ninety percent of Scenic's passengers come from overseas.

The Vistaliner is a twin-engine turboprop and it has a two-pilot flight crew. The Vistaliner meets all the new operational and equipment requirements under the airline standards of Part 121 including state-of-the-art midair collision **warning** and ground proximity avoidance systems. Importantly, the Vistaliner employs quiet aircraft technology which makes it 66 percent quieter than a factory-standard Twin Otter even though a factory-standard unmodified Twin Otter is already considered very quiet.

We have been long term advocates for incentives for air tour operators at Grand Canyon and at other national parks to invest in quiet aircraft technologies. Our initial FAA-certification of the Vistaliner was in 1983. As originally designed, the Vistaliner modifications cost over \$325,000 per aircraft. Shortly thereafter, we amended that certification to include installation of quiet props at a fleet cost of well over \$1 .0 million. TOIL's incentive, then as now, was the realization that we needed to be good neighbors to ground visitors at Grand Canyon by substantially reducing the audibility of our air tour aircraft. We, along with Scenic Airlines and Grand Canyon Airlines, actively sought enactment of the 1987 National Parks Overflights Act and the subsequent implementation of SFAR 50-2. When the National Park Service lacked funds to study the benefits of quiet aircraft technologies at Grand Canyon, our three companies, along with Papillon Grand Canyon Helicopters, made a sizable, no-strings donation to NPS to ~~finish~~ its research in time for the NPS overflight report to Congress.

It is because of our steadfast, capital-intensive and long term commitment to employ only quiet Vistaliner aircraft at Grand Canyon, that we were so disappointed at this FAA rulemaking. Quiet aircraft technology offers the best alternative, and the best strategy, for improving natural quiet at Grand Canyon. Yet, FAA all but ignores quiet aircraft incentives. This failure is the result of a myopic and all-too-narrow perspective of aircraft audibility at Grand Canyon. Air touring does preserve Grand Canyon resources for the benefit of future generations since air tourists impose no long-lasting impact on, or demand for, park resources. Air tourists require no roads or trails, campsites or sanitation services, leave no garbage, pick no wildflowers, take no souvenirs. Although aircraft sound is the sole shortcoming of air visitation, the impact of air tour aircraft sound is temporary and often brief or inaudible for the vast majority of Grand Canyon ground visitors as NPS studies overwhelmingly confirm. It is therefore obvious that FAA, the agency statutorily-charged with the development of aviation, should take a leadership role in promulgating air traffic rules at Grand Canyon which achieve the audibility objectives of NPS by encouraging technical solutions to reduce audibility at the source, the aircraft itself. This is precisely how FAA went about solving community concerns over air carrier airport noise by encouraging airlines to meet FAR 36, Stage 3 standards.

In fact, in this rulemaking, FAA does quite the opposite. Not only has FAA utterly failed to encourage quiet aircraft technology, but by proposing only draconian flight restrictions, possibly curfews and caps, it is creating strong disincentives even for the current use of quiet aircraft technology as it provides no incentive whatsoever for operators of conventional air tour aircraft to convert to quiet aircraft in the future.

Quiet aircraft technology is available now for both fixed-wing and **rotorcraft** and it could be adapted quickly to other existing aircraft models. Several manufacturers are now developing new models which will meet NPS's reduced audibility standards. Quiet aircraft models tend to be larger in passenger seating capacity than the conventional aircraft they replace. The Cessna C-208 Caravans which Scenic Airlines operates seats nine passengers, a fifty percent greater seating capacity than each six-seat Cessna C-207 the Caravans replaced. Each flight conducted by one of our **19-seat deHavilland** Vistaliners is equivalent to two air tour operations of the **nine-seat Cessna C-402/Piper** Navajo.

The benefits of encouraging use of such larger and quieter aircraft should be obvious. Not only is each flight less audible, therefore less noticeable to park visitors, but there will be major reductions in the number of air tour operations required to carry the same number of passengers. This will not happen however unless FAA provides incentives to encourage the use of quiet aircraft.

Unfortunately, quiet aircraft technology is not free and quiet aircraft like the Caravan and the Vistaliner are more expensive than conventional aircraft models. A new Caravan costs approximately \$1.25 million while TOIL today spends about \$1.4 million to purchase, convert and refurbish a Twin Otter to its Vistaliner configuration. Alternatively, air tour operators can purchase twelve Cessna C-207s or seven Cessna C-402s/Piper Navajos for the price of either one Caravan or one Vistaliner.

To remain competitive, despite operating more expensive quiet aircraft, both Scenic and Grand Canyon Airlines have had to rely on greater flight utilization. Unless other air tour operators can expect greater utilization to

amortize their purchases of quiet aircraft technologies, they will have no incentive to make similar investments. This is why the proposed restrictions on the number of flights (caps) or hours of the day air tour flights may be conducted (curfews) are so counter-productive to increased use of quiet aircraft technologies. Nor has the FAA proposed even one quiet aircraft tour route. Instead FAA is **choosing** to double the amount of **flight-free** airspace at Grand Canyon which would apply indiscriminately to quiet and conventional aircraft alike.

In its report to Congress NPS strongly emphasized the need to encourage the use of quiet aircraft as an important strategy for restoring natural quiet at Grand Canyon. NPS recommended that incentives for quiet aircraft such as preferred routes and altitudes be assigned which otherwise might not be appropriate for conventional air tour aircraft. The NPS also recognized that it would take a period of time for operators of conventional air tour aircraft to develop quiet aircraft technologies as well as time for air tour fleet conversions. The NPS accordingly proposed that some flight tour routes be restricted now to “quiet aircraft only” while other Grand Canyon air tour routes would be added over a **fifteen** year time **frame** after which only quiet aircraft would be permitted to conduct air tours over the Park. TOIL wholeheartedly agrees with the Park Service and we would add two essential recommendations. First, the existing \$25 Grand Canyon overflight fee must be abolished for operations of quiet aircraft as a means for paying for such technologies. (It is ironic that all current quiet aircraft operators pay the overflight fee while many operators of conventional aircraft fail or refuse to do so.) Second, to achieve quiet technology compliance sooner, quiet aircraft must not be subject to curfews or caps.

We strongly believe that SFAR 50-2 now provides good and proper balance between enabling air tour operators of quiet aircraft like Scenic Airlines and Grand Canyon Airlines to offer a quality aerial sightseeing experience with minimal audibility for Park ground visitors. That is not to say that we do not believe that more can be achieved. This rulemaking is not the way because it is a radical overhaul of SFAR 50-2 rather than a measured approach which uses incentives for air tour companies to operate quieter aircraft. The rulemaking drastically affects the ability of Scenic and Grand Canyon Airlines to provide viable air tours.

First, the FAA proposes to make the **Zuni** flight corridor one-way where it is two-way now. This would eliminate GCA's important east Canyon air tour which is flown when low ceilings otherwise preclude operating GCA's primary "Grand Discovery" air tour which flies up the **Zuni**, over the north rim and back down through the Dragon flight corridor.

Second, FAA proposes to extend the northern boundary of the Bright Angel Flight-Free Zone to the Grand Canyon National Park boundary. This **will** lengthen the distance of the Grand Discovery air tour by 20 percent and therefore increase GCA's air tour operating costs by a corresponding 20 percent. The proposed new, longer north rim air tour route creates other significant problems for GCA. The Grand Discovery tour would now be required to operate over the highest points of the north rim of Grand Canyon. That will result in more frequent flight cancellations for G-CA than now. Since FAA proposes to limit the Zuni Corridor to one-way air tour flights only, GCA would no longer be able to offer the east Canyon tour as a viable alternate on weather days.

The added distance over the north rim requires more fuel (an additional 110 pounds) which in turn reduces payload and which further restricts passenger capacity. This is a problem particularly when high ambient summer temperatures require artificial limits on passenger loads in order for GCA's Vistaliners to maintain **enroute** altitude in the unlikely event of engine failure. (A FAA Part 121 rule which does not apply to nine seat or less single/multi-engine aircraft with which the Vistaliner must compete.) Finally, we expect the new air tour route to pass directly over the Saddle Mountain Wilderness Area rather than remaining within Grand Canyon National Park boundaries, a questionable aircraft audibility trade-off for ground visitors to **Saddle Mountain**. These new air tour flight restrictions would be imposed even though the north rim of Grand Canyon National Park is closed to ground visitation more than seven months of the year, and even though the north rim's dense forest mantle dramatically attenuates air tour sound the five months it is open.

For Scenic Airlines, the proposed air tour route changes **affect** Vistaliner operations in several ways. The greatest impact however comes from

extending the southern boundary of the **Toroweap/Shinumo flight-free** zone to the Park border, thereby reducing Scenic's principal air tour route over Grand Canyon to an unmarketable and unsellable twenty miles of Canyon viewing (about seven minutes), less than one half of what is flown now. This extension, purportedly to protect Nation's Canyon from overflight noise, is meaningless. First, air tour aircraft diverting around Nation's Canyon will still be audible since the flight-free extension is too small for total noise attenuation. Second, Nation's Canyon lies under the **Tuckup** flight corridor which is used **frequently** by general aviation, **military**, etc. aircraft. (Air tour flights are not permitted in the **Tuckup**.) The same case can be made for the newly proposed Marble Canyon **flight-free** zone (too small to be meaningful) which, if adopted, would eliminate another of Scenic Airlines popular Vistaliner air tours.

The solutions to the problems for Scenic and Grand Canyon Airlines created by this FAA rulemaking lie in part with the NPS recommendations to Congress. TOIL recommends that the existing north rim fixed-wing air tour route and the existing Blue One (Las Vegas to Grand Canyon) be preserved for, but in two years be limited to, quiet aircraft only. Second, TOIL recommends that the Dragon corridor be converted within two years to a quiet airplane flight corridor. Finally, TOIL recommends that FAA define what operating characteristics an airplane model must have in order for it to conduct round-trip air tours within the Dragon corridor---then immediately permit such fixed-wing air tours within the Dragon---as FAA now permits out-and-back helicopter tours. These modest modifications to the NPRM would preserve quality Grand Canyon aerial sightseeing for Scenic's and GCA's Vistaliner passengers.

Round trip access to the Dragon corridor is particularly important for GCA. Its Vistaliners are not only quiet, but they have requisite flight handling characteristics. The **deHavilland** Twin Otter from which the Vistaliner is derived meets the standards for short take-off and landing (STOL performance) including being designed with high-lift wing devices. High-lift wing devices permit normal, and safe, flight operations at low speeds including cruise. GCA uses the STOL capabilities of its Vistaliners now to conduct its Grand Canyon air tours at 90 kts, a cruise speed even lower than



that flown by the helicopter tours within the Dragon Because of this STOL performance capability, the Vistaliner can easily and safely make the required 180 degree turn at the North end of the Dragon within the two mile width of the flight corridor at a bank angle of less than 10 degrees (one half that bank angle for a standard rate turn). As an added benefit, the engine power required of the Vistaliner for cruise in the Dragon is only 50 percent, thereby further reducing its audibility for ground visitors. Every Dragon air tour conducted by Vistaliner (with 19 passengers) replaces four flights by helicopter.

That is why proposed curfews and operations caps must not be imposed on air tour aircraft meeting quiet aircraft standards. The most important incentive for operators to invest in quiet aircraft technologies is to have such investments pay-off by increased utilization. How much benefit is gained by imposing **artificial** curfews when one naturally exists---darkness? Curfews, on the other hand, will cause **significant** aircraft congestion problems as air tour operators reschedule aircraft to arrive at the edge of the SFRA at the same time. That heavy density of aircraft, operating under see-and-avoid VFR traffic rules, threatens the air tour industry's excellent safety record at Grand Canyon. Setting operations caps, as we have learned from the operations of the High Density Rule airport slot committees and the maze of federal regulation of airport capacity for several years following the air controllers' strike, raises serious and **difficult** administrative problems. These measures should be considered only as a last resort.

If caps or curfews ever did become necessary, FAA first must be prepared to deal with the many allocation issues that will result from such restrictions. What is a "new entrant" and how would "new entrants" be accommodated? How would air tour operators be able to trade rights in order to rationalize schedules, something that also changes seasonally in direct proportion to general visitation at Grand Canyon? Will FAA establish "use or lose" rules to prevent air tour operators **from** sitting on allocations not flown while other operators must turn business away? The "use or lose" rules which apply to air carrier slots won't work at Grand Canyon, since air tour schedules are seasonal and subject to revisions and cancellations for weather. The list of questions about allocation procedures is endless. In the end, the rules that

would have to follow would further burden the air tour industry unnecessarily, The only acceptable alternative is a slot market mechanism like that used to allocate restricted capacity at the High Density Rule airports. A market is a far better and fairer way than the inevitable burdensome allocation rules that would be set otherwise by federal regulation.

TOIL has urged FAA to consider carefully the precedent of operations caps and curfews. FAA is charged with the “safe and efficient” use of the airspace. The rulemaking fails to meet that mandate. As a matter of Grand Canyon overflight policy, the “caps” FAA proposes work contrary to the objectives of the 1987 National Parks Overflights Act as well as the 1978 Airline Deregulation Act. The “caps” FAA proposes are in actuality “entitlements” granted only to incumbent air tour operators based on arbitrary rationale. These “entitlements” further encourage the status quo with respect to the continued utilization of conventional aircraft over larger and quieter aircraft. Likewise these “entitlements” will stifle competition and passenger service. They fail to account for those air tour operators which have already made the commitment to use only quiet aircraft by treating them the same as the rest of the air tour industry. What incentive is there for Scenic and GCA to continue to use quiet aircraft when such aircraft are more costly and when they provide no marketable benefits over conventional aircraft their competitors operate?

The extremely adverse economic effects of the FAA proposed rulemaking cannot be overstated for a company like Grand Canyon Airlines and unfortunately FAA has failed to understand the resulting consequences. The decision by GCA to operate only Vistaliners was made largely on the basis of the aircraft’s ability to produce profits rather than gross revenues. (FAA’s economic analysis only takes revenues into consideration.) Profits earned are not proportional to changes in revenue but rather are best described by the 80-20 rule. A twenty percent reduction in revenue results in an eighty percent reduction in profits, if any profits remain at all.

GCA, like all airlines, is highly capital intensive. GCA’s investments in Vistaliners, support equipment, offices, passenger terminal and maintenance facilities are the same whether GCA flies 80 percent, or 100 percent, of its

potential flight schedule. Likewise, profits at GCA, like those of all airlines, are highly leveraged by load factor. Vistaliner operating costs are the same whether there are sixteen or nineteen passengers **onboard**. Effectively, the revenue (ticket price) derived **from** each passenger over break-even goes straight to the bottom-line as profit.

These principles are taught to first year economics students, but FAA fails to apply them. However, we must apply these real-world principles to Grand Canyon Airlines. If the FAA rulemaking is adopted as proposed, it will result in significant losses for GCA. What FAA fails to recognize is that while no one proposed FAA action cuts deeply for Grand Canyon Airlines---no alternate east Canyon air tour; increased over-the-north-rim tour operating expenses; more **frequent** weather cancellations; fewer passengers per flight due to more fuel required **and/or** reduced payload to meet single engine performance rules and proposed caps and curfews that limit numbers of flights--- in the aggregate these restrictions effectively result in the **80-20** rule becoming a disastrous reality for GCA.

For these reasons, Twin Otter International and Grand Canyon Airlines have urged FAA to withdraw this rulemaking. In its place we believe the FAA must first adopt incentives for quiet aircraft technology as a primary means of restoring natural quiet at Grand Canyon through reducing aircraft audibility.

Today, I have described how the proposed rule would severely impact the continuation of quality air tours by Vistaliner at Grand Canyon with little benefit to NPS objectives. Incentives for quiet aircraft deployment will encourage other Grand Canyon air tour operators to convert their conventional fleets. Those incentives must include preferred routes and altitudes, elimination of overflight fees and no curfews or caps. The alternative---what FAA has proposed---will drastically curtail Scenic's and GCA's abilities to operate Vistaliners and in so doing perhaps reverse the trend of the last ten years of flying larger and quieter aircraft in favor of operating more frequent flights with smaller conventional aircraft.

We thank you for your interest in the comments of Twin Otter International. I am pleased to answer any questions the Subcommittee may have.